

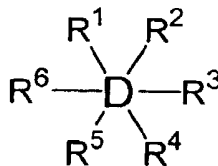
Listing of Claims:

Claims 1-64 (Canceled)

- 1
~~65.~~ (Previously Presented) A method of obtaining a polymer comprising:
- subjecting a higher diamondoid derivative to polymerization conditions thereby forming a polymerization reaction product containing a higher diamondoid containing polymer; and
 - isolating the polymer from the polymerization reaction product.

- 2
~~66.~~ (Previously Presented) A method of obtaining a polymer comprising:
- subjecting a higher diamondoid derivative containing one or two polymerizable moieties to polymerization conditions thereby forming a polymerization reaction product containing a higher diamondoid containing polymer; and
 - isolating the polymer from the polymerization reaction product.

- 3
~~67.~~ (Previously Presented) A method of obtaining a polymer comprising:
- subjecting a higher diamondoid derivative to polymerization conditions thereby forming a polymerization reaction product containing a higher diamondoid containing polymer; the higher diamondoid derivative having the formula:



wherein

D is a higher diamondoid nucleus, and

R^1 , R^2 , R^3 , R^4 , R^5 and R^6 are independently selected from the group consisting of hydrogen and a polymerizable moiety; provided at least one of the R's is a polymerizable moiety; and

- b. isolating the polymer from the polymerization reaction product.

4
68.

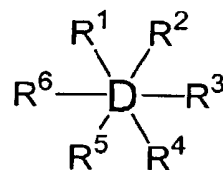
(Previously Presented) A method of obtaining a polymer comprising:

- a. subjecting a higher diamondoid derivative to polymerization conditions thereby forming a polymerization reaction product containing a higher diamondoid containing polymer; the higher diamondoid derivative containing one or two polymerizable moieties wherein the polymerizable moieties are selected from alkenyl, alkynyl, OH, C₂H₃O, SH, NH₂, CO₂H, C₆H₅, C₆H₄NH₂, C₆H₄CO₂H or C₆H₄OH; and
- b. isolating the polymer from the polymerization reaction product.

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69.

(Previously Presented) A method of obtaining a polymer comprising:

- a. subjecting a higher diamondoid derivative to polymerization conditions thereby forming a polymerization reaction product containing a higher diamondoid containing polymer; the higher diamondoid derivative having the formula:

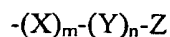


wherein

D is a higher diamondoid nucleus, and

R¹, R², R³, R⁴, R⁵ and R⁶ are independently selected from the group consisting of hydrogen and a polymerizable moiety; provided at least one of the R's is a polymerizable moiety;

wherein the polymerizable moiety has the structure:



wherein

X is O, NR⁷, OC(O), NR⁸C(O), C(O)O or C(O)NR⁹, wherein R⁷, R⁸ and R⁹ are independently hydrogen or alkyl; and

- b. isolating the polymer from the polymerization reaction product.

6
70. (Original) A higher diamondoid polymer comprising, as a recurring unit, a higher diamondoid derivative having a derivatizing moiety attached to a higher diamondoid, said derivatizing moiety covalently bonding the higher diamondoid into the polymer.

71. (Original) The higher diamondoid polymer of Claim 6/70 comprising n recurring units having the formula:

-(R)-

|

D

wherein

R is the derivatizing group;

D is the higher diamondoid and n is an integer larger than 1.

8
72. (Previously Presented) The higher diamondoid polymer of Claim 6/70 comprising n recurring units having the formula:

-(R)-

|

D

and m recurring units having the formula:

-(CP)-

wherein

R is the derivatizing group;

D is the higher diamondoid;

CP is a nondiamondoid copolymer unit, and n and m are each integers greater than 1 with the ratio of n to m having a value of from about 0.001 to about 1000.

⁹
~~73~~

(Original) The higher diamondoid polymer of Claim ~~70~~⁶ comprising n recurring units having the formula:



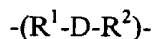
wherein

D is the higher diamondoid;

R is the derivatizing group and n is an integer greater than 1.

¹⁰
~~74~~

(Original) The higher diamondoid polymer of Claim ~~70~~⁶ comprising n recurring units having the formula:



wherein

D is a higher diamondoid and R^1 and R^2 are two derivatizing groups.

¹¹
~~75~~

(Previously Presented) The higher diamondoid polymer of Claim ~~70~~⁶ comprising n recurring units having the formula:



and m recurring units having the formula:



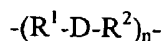
wherein

D is the higher diamondoid;

R is the derivatizing group;

CP is a nondiamondoid copolymer unit, and n and m are each integers greater than 1 with the ratio of n to m having value of from about 0.001 to about 1000.

- 12
76. (Original) The higher diamondoid polymer of Claim 70 comprising n recurring units having the formula:



and m recurring units having the formula:



wherein

R^1 and R^2 are derivatizing groups.

- 13
77. (Original) The higher diamondoid polymer of Claim 70 additionally comprising a preformed backbone to which the higher diamondoid derivatives are covalently bonded.

- 14
78. (Original) A polymer having at least two higher diamondoid components covalently bonded to each other.

- 15
79. (Original) The polymer of Claim 78 wherein said at least two higher diamondoid components are covalently bonded to each other through a linker.

- 16
80. (Original) The polymer of Claim 78 wherein said polymer is a homopolymer.

- 17
81. (Original) The polymer of Claim 78 wherein said polymer is a co-polymer.

- ¹⁸
~~82.~~ (Original) A polymer of Claim ¹⁴~~78~~ represented by formula



wherein

each D is independently a higher diamondoid group;

L is a linker; and

q is an integer from 2 to 100.

- ¹⁹
~~83.~~ (Previously Presented) A polymer of Claim ¹⁴~~78~~ represented by formula

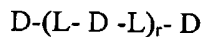


wherein

each D is independently a higher diamondoid group; and

s is an integer from 2 to 1,000.

- ²⁰
~~84.~~ (Original) A polymer of Claim ¹⁴~~78~~ represented by formula



wherein

each D is independently a higher diamondoid group;

each L is independently a linker; and

r is an integer from 1 to 1,000,000.

- ²¹
~~85.~~ (Original) The polymer of Claim ²⁰~~84~~ wherein r is selected from 1 to 1000.